

Application Serial No.: 09/357,957
Amendment dated January 18, 2006
Response to October 18, 2005 Office communication

Amendments to the claims:

The listing of claims will replace all prior versions and listings of claims in the application.

Listing of claims:

Claims 1-28 (canceled without prejudice or disclaimer).

Claim 29 (currently amended): A lubricating composition of matter comprising a polymer, where said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water combined with a material for lubricating a surface wherein said material for lubricating a surface comprises:

(1) a lubricating metal and alloy thereof, a lubricating metal chalcogenide oxide, halide, nitride, carbonate, and silicate or phosphate, or a particulate lubricating metal nitride, or a carbon lubricant; or

(2) a silicate ester, polyphenyl ether, phosphate, biphenyl, phenanthrene, or phthalocyanine compound;

(3) said material for lubricating a surface optionally containing a lubricant comprising an, organic lubricant, inorganic lubricant, or water, or a lubricant additive; or

(4) mixtures thereof.

Claim 30 (previously presented): A lubricating composition of matter comprising a polymer, where said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water combined with a material for lubricating a surface wherein said material for lubricating a surface comprises a solid or particulate inorganic lubricant, containing an organic lubricant, optionally comprising water, or a lubricant additive,

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or mixtures thereof.

Claim 31 (currently amended): The composition of one of claims 29 or 30 wherein said material for lubricating a surface ~~comprises~~ comprises, a carbon, or a metal material that provides barrier-layer lubrication, or mixtures thereof.

Claim 32 (currently amended): The composition of one of claims 29 or 30 wherein said material for lubricating a surface comprises graphite, molybdenum disulfide, cobalt chloride, antimony oxide, niobium selenide, tungsten disulfide, boron nitride, silver sulfate, cadmium chloride, cadmium oxide, cadmium iodide, borax, basic white lead, lead carbonate, lead monoxide, lead iodide, asbestos, talc, mica, zinc oxide, zinc phosphate, iron phosphate, manganese phosphate, carbon, babbitt, bronze, brass, aluminum, gallium, indium, thallium, thorium, copper, silver, gold, mercury, lead, tin, or the Group VIII noble metals or mixtures thereof.

Claim 33 (canceled without prejudice or disclaimer).

Claim 34 (previously presented): The composition of one of claims 29 or 30 which includes a material comprising a fluoroalkylene homopolymer or copolymer, a lower alkylene polyolefin homopolymer or co-polymer, a paraffinic hydrocarbon wax, phenanthrene, copper phthalocyanine, or mixtures thereof.

Claim 35 (previously presented): A lubricating composition of matter comprising a polymer wherein said polymer comprises a superabsorbent polymer that absorbs greater than

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about 100 times its weight in water combined with a material for lubricating a surface, wherein said material for lubricating a surface comprises water containing a lubricant additive.

Claim 36 (currently amended): The -A- lubricating composition of claim 30 -matter-
comprising a polymer wherein said polymer comprises a superabsorbent polymer that absorbs-
greater than about 100 times its weight in water combined with a material for lubricating a-
surface, wherein said organic lubricant material for lubricating a surface comprises an oil or
grease greases thereof or mixtures thereof and said material for lubricating a surface also
comprises water, optionally containing a lubricant additive.

Claim 37 (previously presented): A lubricating composition of matter of one of claims 29 or 30, wherein said material for lubricating a surface includes water.

Claim 38 (currently amended): The composition of claim 37 where said material for lubricating a surface comprises graphite, molybdenum disulfide, cobalt chloride, antimony oxide, niobium selenide, tungsten disulfide, boron nitride, silver sulfate, cadmium chloride, cadmium oxide, cadmium iodide, borax, basic white lead, lead carbonate, lead monoxide, lead iodide, asbestos, talc, mica, zinc oxide, zinc phosphate, iron phosphate, manganese phosphate, carbon, babbitt, bronze, brass, aluminum, gallium, indium, thallium, thorium, copper, silver, gold, mercury, lead, tin, the Group VIII noble metals, a fluoroalkylene homopolymer or copolymer, a lower alkylene polyolefin homopolymer or co-polymer, a paraffinic hydrocarbon wax, phenanthrene, copper phthalocyanine, or mixtures thereof.

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Claim 39 (previously presented): A lubricating composition of matter comprising a polymer wherein said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water combined with a material for lubricating a surface, wherein said material for lubricating a surface comprises a phosphate, and wherein said material for lubricating a surface optionally contains a lubricant additive.

Claim 40 (previously presented): The composition of claim 39 where said phosphate comprises tricresyl phosphate, zinc phosphate, iron phosphate or manganese phosphate, or mixtures thereof.

Claim 41 (previously presented): The composition of one of claims 29 or 30 wherein said organic lubricant comprises a fatty oil, or fatty acid or wax, or mixtures thereof.

Claim 42 (previously presented) The composition of claim one of claims 29 or 30 wherein said organic lubricant comprises a synthetic oil lubricant, or greases thereof, or two-mol ethoxylate of isostearyl alcohol, or mixtures thereof.

Claim 43 (previously presented): The composition of one of claims 29 or 30 wherein said organic lubricant comprises a soap.

Claims 44-47 (canceled without prejudice or disclaimer).

Claim 48 (previously presented): The composition of one of claims 29 or 30 wherein said organic lubricant comprises a polymerized olefin.

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Claim 49 (previously presented): The composition of one of claims 29 or 30 wherein said organic lubricant comprises an organic ester.

Claims 50-52 (canceled without prejudice or disclaimer).

Claim 53 (previously presented): The composition of one of claims 29 or 30 where said superabsorbent polymer absorbs greater than about 100 times its weight in water and comprises a polymer of acrylic acid, an acrylic ester, acrylonitrile, acrylamide, co-polymers thereof or mixtures thereof, and wherein said lubricant additive comprises an antioxidant, rust inhibitor, antiwear compound, extreme pressure additive, detergent, dispersant, pour point depressant, viscosity-index improver, or foam inhibitor.

Claim 54 (canceled without prejudice or disclaimer).

Claim 55 (previously presented): A lubricating composition of matter comprising a polymer, wherein said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water combined with a material for lubricating a surface which comprises a chalcogenide of a non-noble metal or mixtures of chalcogenides of a non-noble metal, optionally containing a lubricant additive.

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Claim 56 (previously presented): The composition of claim 37 wherein said material for lubricating a surface comprises a chalcogenide of a non-noble metal or mixtures of chalcogenides of a non-noble metal.

Claim 57 (previously presented): The composition of claim 55 wherein said material for lubricating a surface comprises a chalcogenide of molybdenum, antimony, niobium, and tungsten and mixtures of said chalcogenides.

Claim 58 (previously presented): The composition of claim 37 wherein said material for lubricating a surface comprises a chalcogenide of molybdenum, antimony, niobium, and tungsten and mixtures of said chalcogenides.

Claim 59 (previously presented): The composition of claim 55 wherein said material for lubricating a surface comprises a sulfide of molybdenum, antimony, niobium, and tungsten and mixtures of said sulfides.

Claim 60 (previously presented): The composition of claim 37 wherein said material for lubricating a surface comprises a sulfide of molybdenum, antimony, niobium, and tungsten and mixtures of said sulfides.

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Claim 61 (currently amended): The composition of any one of claims 55 or and 57 wherein said mixture comprises a two component mixture of said materials for lubricating a surface.

Claim 62 (previously presented): The composition of claim 56 wherein said mixture comprises a two component mixture of said materials for lubricating a surface.

Claim 63 (currently amended): The composition of any one of claims 55 or and 57 wherein said mixture comprises a three component mixture of said materials for lubricating a surface.

Claim 64 (previously presented): The composition of claim 56 wherein said mixture comprises a three component mixture of said materials for lubricating a surface.

Claim 65 (currently amended): The composition of any one of claims 55 or and 57 wherein said mixture comprises a four component mixture of said materials for lubricating a surface.

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Claim 66 (previously presented): The composition of claim 56 wherein said mixture comprises a four component mixture of said materials for lubricating a surface.

Claim 67 (currently amended): A lubricant composition of any one of claims 29 or 30 wherein said organic lubricant comprises a grease or oil, or mixtures thereof.

Claim 68 (currently amended): The composition of any one of claims 29, 30, 31, 32 39, 55, or and 57 wherein said composition is substantially anhydrous.

Claims 69-71 (canceled without prejudice or disclaimer).

Claim 72 (previously presented): The composition of claim 31 wherein said composition is substantially anhydrous.

Claim 73 (previously presented): The composition of claim 32 wherein said composition is substantially anhydrous.

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Claim 74 (previously presented): The composition of claim 34 wherein said composition is substantially anhydrous.

Claim 75 (previously presented): The composition of claim 39 wherein said composition is substantially anhydrous.

Claim 76 (previously presented): The composition of claim 40 wherein said composition is substantially anhydrous.

Claim 77 (previously presented): The composition of claim 41 wherein said composition is substantially anhydrous.

Claim 78 (previously presented): The composition of claim 42 wherein said composition is substantially anhydrous.

Claim 79 (previously presented): The composition of claim 48 wherein said composition is substantially anhydrous.

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Claim 80 (previously presented): The composition of claim 58 wherein said mixture comprises a two component mixture.

Claim 81 (previously presented): The composition of claim 58 wherein said mixture comprises a three component mixture.

Claim 82 (previously presented): The composition of claim 58 wherein said mixture comprises a four component mixture.

Claim 83 (currently amended): A process of producing a lubricating composition of matter comprising combining a polymer with a material for lubricating a surface; wherein said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water; and wherein said material for lubricating a surface comprises a solid or particulate inorganic lubricant containing an organic lubricant, optionally comprising water, or a lubricant additive; or mixtures thereof.

Claim 84 (previously presented): A product produced by the process of claim 83.

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Claim 85 (new): A lubricating composition of matter comprising a polymer, where said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water combined with a material for lubricating a surface wherein said material for lubricating a surface comprises:

- (1) graphite, molybdenum disulfide, cobalt chloride, antimony oxide, niobium selenide, tungsten disulfide, particulate boron nitride, silver sulfate, cadmium chloride, cadmium oxide, cadmium iodide, borax, basic white lead, lead carbonate, lead monoxide, lead iodide, asbestos, talc, mica, zinc oxide, zinc phosphate, iron phosphate, manganese phosphate, carbon, babbitt, bronze, brass, aluminum, gallium, indium, thallium, thorium, copper, silver, gold, mercury, lead, tin, the Group VIII noble metals or mixtures thereof; or
- (2) a silicate ester, polyphenyl ether, phosphate, biphenyl, phenanthrene, or phthalocyanine compound;
- (3) said material for lubricating a surface optionally containing a lubricant comprising an, organic lubricant, inorganic lubricant, or water, or a lubricant additive; or
- (4) mixtures thereof.

Claim 86 (new): The composition of claim 85 which includes a material comprising a fluoroalkylene homopolymer or copolymer, a lower alkylene polyolefin homopolymer or co-polymer, a paraffinic hydrocarbon wax, phenanthrene, copper phthalocyanine, or mixtures thereof.

Claim 87 (new): A lubricating composition of matter of one of claims 85 or 86, wherein said material for lubricating a surface includes water.

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Claim 88 (new): The composition of one of claims 85 or 86 wherein said organic lubricant comprises a fatty oil, or fatty acid or wax, or mixtures thereof.

Claim 89 (new) The composition of claim one of claims 85 or 86 wherein said organic lubricant comprises a synthetic oil lubricant, or greases thereof, or two-mol ethoxylate of isostearyl alcohol, or mixtures thereof.

Claim 90 (new): The composition of one of claims 85 or 86 wherein said organic lubricant comprises a soap.

Claim 91 (new): The composition of one of claims 85 or 86 wherein said organic lubricant comprises a polymerized olefin.

Claim 92 (new): The composition of one of claims 85 or 86 wherein said organic lubricant comprises an organic ester.

Claim 93 (new): The composition of one of claims 85 or 86 where said superabsorbent polymer absorbs greater than about 100 times its weight in water and comprises a polymer of acrylic acid, an acrylic ester, acrylonitrile, acrylamide, co-polymers thereof or mixtures thereof, and wherein said lubricant additive comprises an antioxidant, rust inhibitor, antiwear compound, extreme pressure additive, detergent, dispersant, pour point depressant, viscosity-index improver, or foam inhibitor.

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Claim 94 (new): A lubricant composition of any one of claims 85 or 86 wherein said organic lubricant comprises a grease, or oil, or mixtures thereof.

Claim 95 (new): The composition of any one of claims 85 or 86 wherein said composition is substantially anhydrous.

Claim 96 (new): A process of producing a lubricating composition of matter comprising combining a polymer with a material for lubricating a surface;

wherein said polymer comprises a superabsorbent polymer that absorbs greater than about 100 times its weight in water; and

wherein said material for lubricating a surface comprises:

(1) graphite, molybdenum disulfide, cobalt chloride, antimony oxide, niobium selenide, tungsten disulfide, particulate boron nitride, silver sulfate, cadmium chloride, cadmium oxide, cadmium iodide, borax, basic white lead, lead carbonate, lead monoxide, lead iodide, asbestos, talc, mica, zinc oxide, zinc phosphate, iron phosphate, manganese phosphate, carbon, babbitt, bronze, brass, aluminum, gallium, indium, thallium, thorium, copper, silver, gold, mercury, lead, tin, the Group VIII noble metals or mixtures thereof; or

(2) a silicate ester, polyphenyl ether, phosphate, biphenyl, phenanthrene, or phthalocyanine compound;

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- (3) said material for lubricating a surface optionally containing a lubricant comprising an, organic lubricant, inorganic lubricant, or water, or a lubricant additive; or
- (4) mixtures thereof.

Claim 97 (new): A product produced by the process of claim 96.